Visualization Conduction Heat Transfer Using Augmented Reality Technology

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Abstract

Background/Objectives: Physics encompasses of imperceptible concept, example the atoms' vibration of conduction heat transfer that occurs microscopically. Learning media based on augmented reality are expected to support the visualization of conduction.
Methods/Statistical analysis: The research method used the following steps such as potential development, development, integration media, validation, and implementation. Developing the learning media used software namely Adobe Illustrator, Vuforia Developer, and Unity 3D also used hardware namely laptop and android device.
Findings: Development of the learning media focused on the design of three-dimensional visualization of three different solid particles' vibrational movement when given a heat source namely iron, wood, and aluminum so that the development produced markers and its application. The learning media enhancing interactive learning between students and teacher; enhance learning motivation and ease of operation. In addition, students said that augmented reality gave sophisticated media to learn the imperceptible concept of Physics.
Improvements/Applications: The augmented reality technology-based learning media had characteristic such as visualization of microscopic movement of atoms, easy to use, flexible, also providing explanation video and audio.

***Keywords*:** Conduction, Augmented Reality, Learning Media.